

The examiner states in paragraph 2 of the office action, "the term 'Gum base' generally refers to a natural resin material." One skilled in the art knows what is and what is not a natural resin material and, therefore, the terminology satisfies the statutory requirement for definiteness. In re Conley, 180 USPQ 454 at 456 (CCPA 1974).

The Rejection of Claim 29 Under 35 USC 112, First Paragraph

In applicant's "Supplemental Response" filed August 13, 2002, attorney for applicant argued:

It is respectfully submitted that those skilled in the art would recognize that applicant's teachings of density are in such units because the density of resin foams is conventionally, in modern practice, given in units of "g/cm³".

Abstracts of four Japanese Kokai publications were submitted as representative of the conventional usage of density values expressed in terms of "g/cm³" with the response of

Other art of record supports applicant's contention that those skilled in the art would understand the units for the density ranges taught by applicant's specification to be expressed in terms of g/cm³. U.S. 4,134,610, U.S. 4,659,618 and U.S. 6,296,299 are noted as references of record teaching densities for polyurethane foams. The most recent of these references, i.e., U.S. 6,296,299 expresses density in terms of "g/cm³". See Table 1 at column 10 of U.S. 6,296,299. U.S. 4,659,618 also expresses density of a urethane foam in terms of "g/cm³" (0.05 g/cm³ - column 6, line 29).

As the examiner has previously noted on this record, density of polyurethane foams have also been expressed in the art in terms of other units. However, the absolute values of the numbers of applicant's ranges teach those skilled in the art that the units are g/cm^3 . For example, U.S. 4,134,610, of record, discloses a polyurethane foam used in an automobile bumper "having a density within the range of from about 50 to about 150 g/dm^3 , preferably from about 70 to about 120 g/dm^3 ...", quoting from column 3, lines 22-24. Thus, while U.S. 4,134,610 expresses density of a polyurethane foam in different units (g/dm^3) it does so with absolute values many orders of magnitude higher than those recited by applicant's claims. Thus, the magnitude of the end points of applicant's ranges teaches those skilled in the art that applicant's density ranges are not expressed as g/dm^3 but, rather, as the more conventional g/cm^3 .

U.S. 4,978,562 teaches, quoting the title, "Composite Tubular Door Beam Reinforced With a Syntactic Foam Core..." The density of the core, without specification of the material, is given as "from about 15 pounds per cubic feet to about 50 pounds per cubic feet...", quoting from column 7, lines 5-7. Again, the values for density are magnitudes higher than those of the ranges recited by applicant's claims. Finally, U.S. 5,128,196 teaches a density for polystyrene foam of 3.4 pounds/cubic feet, again many orders of magnitude higher than the absolute values of applicant's recited range for density.

The issue here, properly framed, is whether or not the specification as originally filed "conveyed in any way to those skilled in the art, to whom it is addressed, the information that appellants invented the... [claimed subject matter]." *In re Smythe*, 178 USPQ 279 at 284 (CCPA 1973). It is respectfully submitted that the four Kokai publications submitted with applicant's paper filed August 13, 2002 and which teach density given in units of "g/cm³", as well as the other documents of record here, support applicant's position that the test of *Smythe* is met, i.e., that the original specification conveyed a teaching of density understood by those skilled in the art to be expressed in terms of g/cm³.

The Obviousness Rejections (Paragraphs 4, 5 & 6 of Office Action)

These prior art rejections are traversed for the reasons that: (1) Scherzer nowhere teaches "gum-based" particles and (2) there would have been no motivation to combine the teachings of Scherzer with the other references. In a telephone conversation of June 15, 2005 the undersigned explained that the teaching at column 5, lines 40-43, of Scherzer, relied upon by the examiner, is directed to polyol components, not to any type of particles. At the top of page 5 of the office action the examiner states that Scherzer teaches, at column 5, lines 40-43, the addition of gum-based particles or "crosslinked" particles "for strengthening the polyurethane foam and injected [sic.] into a hollow body." The examiner is factually incorrect in several respects. Firstly, as noted above, the teaching at column 5, lines 40-43 is addressed to "polyol components", not to any of the particles i or ii referred to elsewhere in the Scherzer patent. Secondly,

there is no mention in that teaching of either "strengthening the polyurethane foam" or injecting a foam into a hollow body. If one reads the entire paragraph at page 5, lines 40-64, it can be seen that the teaching identifies those polyols which should be used to form rigid polyurethane foams "if desired" (column 5, lines 41-46) and those "polyol components used for flexible foams" (column 5, lines 47-64). Again, the teaching is totally unrelated to particles i and ii. Still further, a "low-wear" characteristic, as when the material is used in shoe soles (see column 2, lines 23-28), is totally worthless in the context of a filling of a hollow tubular body wherein the foam is protected by the hollow metal body foam whatever wear to which it might otherwise be exposed.

Scherzer et al. set forth two objectives for their invention. The first stated objective is the reduction of dust generated by processing of the foam such as by sawing. See column 1, lines 43-53. The second is the aforementioned low-wear property (see column 2, lines 23-65, especially lines 60-65). Neither dusting nor wear would be a consideration in choice of a foam material for filling a metal tubular structure. Accordingly, the motivation necessary for a prima facie combination of Scherzer with the other references is lacking.

In the first full paragraph at page 5 of the office action the examiner writes:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination by including the cross-linked-gum based particle, as taught by Scherzer, since this useful in the preparation of the polyurethane foams (column 5, lines 40-42).

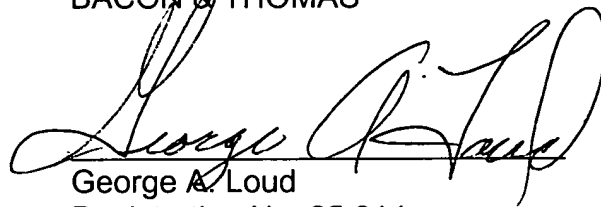
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Further, in a telephone conversation on June 15, 2005 the examiner stated that he also relies on the teachings at column 3, lines 6-12, of Scherzer, which teachings are directed to "thermoset particles," not gum-based particles. Again, the examiner's position, both as quoted above and as evidenced by reliance of column 3, lines 6-12 of Scherzer, appears to be based on the aforementioned clear misinterpretation of the teaching at page 10, lines 1-10, of applicant's specification.

In conclusion, it is respectfully submitted that the examiner reconsider the rejections in light of the foregoing with a view toward allowance of the pending claims.

Respectfully submitted,

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A handwritten signature in dark ink, appearing to read "George A. Loud", written over a horizontal line.

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